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ON

# DIVISION OF THE SPHINCTER ANI MUSCLE

AS A

# THERAPEUTIC MEASURE.

BY

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# ON DIVISION OF THE SPHINCTER ANI MUSCLE AS A THERAPEUTIC MEASURE.

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Within a short time I have been called upon to treat two cases of rectal disease, which have strongly impressed upon my own mind a point in the surgery of this part to which it may be worth while to call attention.

The first case was that of a woman of rather nervous temperament, suffering with hæmorrhoids, which I removed by Allingham's operation. As they protruded freely from the anus, there seemed no occasion for stretching the sphincter muscle, and this, therefore, was not done. Hardly had she recovered from the ether, however, before I regretted the omission. For a week this muscle, by its spasmodic twitching, deprived the sufferer of all rest and comfort, often waking her with a cry from a sound sleep, and making the constant administration of morphine a necessity. The pain was so severe that the advisability of again etherizing her and paralyzing the muscle, as should have been done in the first place, was seriously considered.

The second case was one of fistula, in a man in feeble

health and also of nervous temperament. The abscess cavity was of the size of the palm, and communicated with the bowel just inside the verge of the anus. Again there was no necessity for stretching the sphincter, but this time it was thoroughly done with the thumbs in the usual way.

From the time he recovered from the ether he suffered no pain, the bowels moved naturally on the day after the operation, and in a week he left for the country, congratulating himself on having escaped all the suffering he had so much dreaded.

It may be that in the latter case the absence of pain was only a coincidence, but the former proves to my mind the amount of suffering which the sphincter alone may cause—fully as much as is seen in many cases of incurable disease of this part. If, instead of hæmorrhoids, the patient had been suffering from a malignant growth, this symptom alone would have been considered by many a sufficient indication for lumbar colotomy.

The slight sensibility of the rectum above the anus is well known, being a matter of every-day experience. The gravest disease may exist here, and nitric acid or the cautery may be applied, without causing any great degree of pain, while the extreme sensibility of the anus and the tendency of its muscle to spasmodic action in disease are easily understood by a glance at its very free nerve supply from the sacral and pudic nerves; and this clinical fact has given rise to the practice of temporarily paralyzing it by stretching or dividing it with the knife or écraseur, sometimes as a palliative and sometimes as a curative measure. Before we can properly define the limits of such an operation, and reduce it to its true rank as a legitimate surgical procedure, we must know exactly how far the function of the muscle may be interfered with without inflicting a greater evil than the one its division is intended to cure. In this respect it seems to bear a close analogy to the meatus urinarius, and the more we examine the subject the more surprised we are to find how easily it may, in great part or entirely, be dispensed with.

The forcible and sudden stretching of the muscle with the thumbs produces, as is well known, only a temporary loss of

power, lasting a few days and causing so little inconvenience as sometimes to scarcely attract the attention of the patient. It is essentially a rough proceeding, and is generally attended by a rupture of the mucous membrane, which may be avoided by a more gradual and intermittent dilatation with a suitable speculum, such as Bodenhamer's, in which the power may be regulated by a screw. The complete linear division of the muscle with the knife or écraseur causes greater or less incontinence, sometimes hardly noticeable, and again lasting several weeks, and probably also permanently modifies its action. Before division, it is a circle, and contracts toward its own center; when divided, it is an arc contracting away from the point of division. It is well known that the cicatrix in muscle is almost entirely connective tissue, and this may account for the permanent relief which follows its division in some cases of grave disease, though no improvement may have occurred in the disease itself. The complete removal of the muscle does not of necessity, in fact we might say generally, cause permanent incontinence. Curling says, "To credit this, we must suppose that the sphincter is an unnecessary muscle." In a state of health it certainly is not, but Nature has great power in adapting herself so as to atone for the removal even of a necessary part. Curling himself gives two cases of cancer which "show that a large part of the muscle may be removed without seriously weakening the retentive power of the anus, or contracting the orifice so as to produce any important impediment to the passage of stools." Others have proved that not only a large part but the whole may be removed without causing permanent disability. For example, Emmet* describes an operation for cancer in which he removed "the entire sphincter muscle, about three inches of the posterior wall of the rectum, and about an inch and a half of the rectal surface of the recto-vaginal septum," and yet, in less than two months, the patient had "good retentive power." The most recent authority on this point, however, is Cripps.†

* "The Principles and Practice of Gynæcology," 2d ed. Philadelphia: Henry C. Lea, 1880, p. 516.

† "Cancer of the Rectum; its Pathology, Diagnosis, and Treatment." London: J. & A. Churchill, 1880, p. 162.

He says, in speaking of the condition of the parts after excision:

It might be supposed that the destruction of the internal sphincter, and at the same time more or less damage to the external muscle, would be followed by an incontinence of fæces. In my Jacksonian Essay, out of thirty-six cases recorded, defæcation was normal in twenty-three instances, while fæces could be retained, when not too fluid, in six cases, incontinence resulting in seven instances only. My own experience is quite in accordance with these facts, and in one case only was incontinence a trouble, and this was complicated with stricture. In all cases, after operation there is at first complete incontinence; and the patient loses all consciousness of the passage of fæces, but as convalescence advances control returns. In those instances where portions of the sphincter have been left intact, the muscle, temporarily paralyzed, probably regains its power, but when the sphincter has been wholly removed retention of fæces requires another explanation. Chassaignac attributed it to an hypertrophy of the circular fibers around the termination of the cut margin, constituting a sort of rudimentary sphincter. Lisfranc considered that it depended most probably on the somewhat narrow, tortuous course through the cicatrix, assisted by the surrounding muscles. In the "Bulletin de la Soc. de Chirurgie," of 1861, an interesting discussion on this subject will be found. In the majority of cases it does not appear that hypertrophy of the circular fibers has anything to do with the power of retention, nor in cases that I have examined has any such hypertrophy been found. The common plan by which the passage of fæces appears to be prevented will be best gathered from a description of Mrs. McM——'s case, whose rectum I have frequently examined since the removal of two inches and three quarters of the bowel, twenty months ago. Mrs. McM—— is able to retain both wind and motions, as a rule, completely, but, if she has any diarrhœa, the linen is slightly stained. Upon separating the sides of the buttocks, the anal aperture appears as an oval opening in the skin, one inch long by three quarters wide. The margin of the opening is formed by a slight inversion of the skin. The edge is not hard, and admits of a certain amount of stretching; just within the orifice of the skin is seen a bright-red protrusion, which, upon examination, is found to be a sort of prolapse of one side of the bowel, completely blocking up the opening. Very slight pressure enables the finger to pass into the bowel. This valve-like approximation of the sides of the bowel would appear to be but a feeble guard against the passage of fæces; nevertheless, in practice, it is completely efficacious.

Knowing, then, the results of stretching, of division, and of complete destruction of the sphincter muscle, it may be possible for us to mark out with some degree of accuracy the

conditions which indicate that one or other of these procedures is likely to be followed by good results.

It is with the second, or complete division, that we have now most to do. The good results of this operation for the cure of painful ulcer are too well known for us to dwell upon them—the relief of pain probably resulting from direct section of nerve filaments going to the ulcerated surface, and the cure, from the rest given the part by the paralysis of the muscular fibers. The division of the muscle may greatly assist in the removal of a foreign body from the rectum, which from its shape slips from the blades of an instrument, or from its size can not be drawn through the anus without laceration, e. g., a chocolate-cup, as in a case quoted in the "London Medical Record," February, 1879, p. 54.

In the March number of this "JOURNAL" for the present year we gave a collection of cases of external rectotomy for the cure or relief of grave strictures of the rectum, and called attention briefly to the part which division of the sphincter played in the good results of this operation, independently of any interference with the stricture itself. This point we wish to emphasize now more strongly. In that paper we quoted three cases which proved that in non-malignant stricture, attended with much pain and ulceration, and in cases of cancer where the disease was too extensive for extirpation, and the patient was worn out by the constant suffering, such relief might be obtained by a division of the sphincter alone as to deceive the sufferer into the belief that his disease had been radically cured, this relief from pain lasting till the death of the patient from the gradual advancement of the cachexia.

The symptoms caused by stricture of the rectum, whether malignant or not, can be grouped under two general heads: first, those due to obstruction; and, second, those which result from the pain, the latter being by far the most troublesome and most frequently calling for surgical interference. For the obstruction we have several remedies: the destruction of a part of the diseased tissue with escharotics, gradual and mild dilatation with the finger as a means of palliation, and the proper regulation of the diet and administration of laxatives. By such measures an exceedingly small outlet may be made

to suffice for the necessities of nature. If even this can not be preserved, and actual obstruction is threatened, there are two remaining measures which may be resorted to. The first is free division of the stricture with the écraseur, applicable to all cases in which the disease is situated below the reflexion of the peritonæum, say, within four inches of the anus; and the second is lumbar colotomy, applicable to all cases in which it is above this point.

For the relief of the other class of symptoms (those due to pain) lumbar colotomy is not indicated—at least, not until other means have been tried. For the pain may be due to extension of the disease to the neighboring parts, the involvement of the bones of the sacrum, pressure on adjacent nerves, etc., in which case the patient is no better off after lumbar colotomy than before; and, again, it may be due, and often is, to constant irritation of the sphincter, either from direct extension of ulceration, or from the constant contact with a sanious offensive discharge; in which case it may be relieved as effectually by a free division of the muscle as by the formidable operation of colotomy. If, after paralyzing the sphincter, there is still pain enough to make a formidable operation necessary, and this pain can be reasonably proved to be due to the passage of fæces over an ulcerated surface, and can not be relieved by any of the many means we have at our command for softening fæcal evacuations or allaying the irritability of the rectum, we may resort to colotomy as a justifiable procedure; but, limited by these restrictions, the operation would be much rarer than it now is.

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